NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(Pursuant to NAC 445A.874)

Permittee Name:	**Mr. Ken Hilliard, 7-Eleven Inc.**	Type of Project:	**Remediation**
Project Name:	**7-Eleven Store #22070**	Address:	**7291 Las Vegas Blvd.**
Permit Action:	**UIC Draft Permit Issuance**		**Las Vegas, Nevada 89119**
Permit Number:	**UNEV2007203**	Injection Wells (#):	**three**

A. Description of Injection

Location: Three (3) injection wells (and additional injection wells approved by the UIC Program) located at 7291 Las Vegas Blvd., Las Vegas, Nevada, 89119 in the SE ¼ of Section 5, T22S, R61E. The wells are expected to be approximately 160 feet deep with a screened interval that is expected to vary between 35 to 48 feet at the bottom of the well. The injection wells are MW-1, MW-3, and MW-4.

Characteristics: The injectate consists of industrial grade pure oxygen gas by iSOC™ technology for petroleum hydrocarbon remediation, particularly BTEX (Benzene, Toluene, Ethylbenzene and Total xylenes) and MTBE (methyl tertiary butyl ether). The average injection rate shall not exceed 30 cc/min., and the pressure shall not exceed 50 psi. The iSOC™ system delivers supersaturated levels of dissolved oxygen (DO) to groundwater (typically 40-200 ppm) without bubbles, and with a very low decay rate. Increasing dissolved oxygen concentrations in groundwater can encourage larger aerobic microbe populations by increasing the number of electron acceptors available to these microbes in the saturated zone. Increased microbial activity in turn, accelerates the rate of biodegradation of BTEX and MTBE.

B. Synopsis

The remediation at the 7-Eleven store will be initiated to address petroleum hydrocarbon groundwater beneath the facility. The source of the contamination is thought to be a leaking underground storage tank (UST). A Corrective Action Plan was submitted to NDEP's Bureau of Corrective Actions and was approved on August 29, 2006 that included the use of iSOC™ technology at monitoring wells 1, 3 and 4.

C. Receiving Water Characteristics

Groundwater sampling at this site has demonstrated the presence of BTEX and MTBE in excess of the State and Federal action levels.

The geology encountered during well construction at the site consists primarily of backfill or coarse sand from the ground surface to 2 to 4 feet below ground surface (bgs). Silty to clayey sands predominate to approximately 40 feet bgs. The remainder of the geology to a depth of approximately

180 feet bgs is predominated by silty sands and sandy silts, interspersed with clayey sands, clayey silts and occasional clay lenses.

The depth to ground water is approximately130 feet below ground surface (bgs). The consultant reported that groundwater generally flows to the southern direction with an approximate hydraulic gradient of 0.140 ft/ft. Additionally, the consultant reports the presence of isolated perched water tables.

D. Procedures for Public Comment

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada was sent to the Las Vegas Review Journal and/or Las Vegas Sun on March 15, 2007. The notice was mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit may do so for a period of 30 days following the date of the public notice.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445.274.

E. Proposed Determination

The Division has made the tentative determination to issue the proposed permit.

F. Proposed Effluent Limitations and Special Conditions

Table 1

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Full Inorganic Scan ("Total Recoverable Metals") using EPA Method 200 and 300 series (UIC Sample List 1)	Three months after first injection, then semi-annually during July and January of each year, (Due to continuous injection, samples may be taken anytime)	MW-1	Monitor and Report

Table 1 Cont: PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Benzene, Toluene, Ethyl benzene, total Xylenes (BTEX), and Methyl Tertiary Butyl Ether (MTBE) by EPA Method 8260B	Quarterly during the 1st, 2nd, and 3rd quarters (Due to continuous injection, samples may be taken anytime). These compounds will be included in the 4th Q VOC analysis.	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7	Monitor and Report
Extended Volatile Organic Compound List (65 compounds) by EPA Method 8260B	Annually during the 4th Quarterly (Due to continuous injection, samples may be taken anytime)	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7	Monitor and Report
Industrial grade pure oxygen gas by iSOC technology: document Injection Rate (cc/min), Volume, Date, and Time Injected	Continuous	MW-1, MW-3 and MW-4	Average injection rate shall not exceed 30 cc/min.; the pressure shall not exceed 50 psi.
Dissolved Oxygen and Temperature	Weekly for two months. Monthly thereafter.	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7	Field Parameters
Electrical Conductivity, Ferrous iron, and pH	Quarterly (Due to continuous injection, samples may be taken anytime)	MW-1, MW-3, and MW-4	Field Parameters
Groundwater Elevation (amsl) and Depth to Groundwater	Quarterly	All on-site monitoring and injection wells	Monitor and Report

G. **<u>Rationale for Permit Requirements</u>**

The permit conditions will help to ensure that the injectate does not adversely affect the existing water quality or hydrologic regime.

Prepared by: Birgit M. Widegren

Date: February 28, 2007

APPENDIX A

PARAMETER	MW-1* Sampled 12/29/2006	DRINKING WATER STANDARDS (MCL)
Total Dissolved Solids, mg/L	***3240***	1000
pH	6.59	6.5 - 8.5
Chloride, mg/L	158	400
Fluoride, mg/L	0.09	4
Sulfate, mg/L	***1680***	500
Nitrate (as nitrogen), mg/L	<0.1	10 (NO_3-N) & 45 (NO_3)
Nitrite (as nitrogen), mg/L	<0.1	1
Aluminum, mg/L	***22.1***	0.2 (Advisory)
Antimony, mg/L	<0.002	0.006
Arsenic, mg/L	***0.164***	0.05
Barium, mg/L	0.605	2
Beryllium	<0.001	0.004
Cadmium, mg/L	<0.001	0.005
Chromium, mg/L	0.056	0.1
Copper, mg/L	0.044	1.3
Lead, mg/L	***0.026***	0.015
Iron, mg/L	***41.3***	0.6
Magnesium, mg/L	***315***	150
Manganese, mg/L	***1.51***	0.1
Mercury, mg/L	***0.0092***	0.002
Nickel, mg/L	***0.373***	0.1
Selenium, mg/L	***0.031***	0.01
Silver, mg/L	<0.005	0.05
Thallium, mg/L	<0.001	0.002
Zinc, mg/L	0.598	5